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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

NGO, NGUYEN HOANG

ART UNIT PAPER NUMBER

2616

DATE MAILED: 04/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/938,507

Applicant(s)

KONG, WON-KEUN

Examiner

Nguyen Ngo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Amendment

This communication is in response to the RCE of 1/23/2006. All changes made to the Claims have been entered. Accordingly, Claims 1-16 are currently pending in the application.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3, 5, 7, 9, and 10-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Kunze et al. (US 6879593), hereinafter referred to as Kunze.

Regarding claim 1, 5, and 9, Kunze discloses a network gateway comprising a computer processor programmed to permit the gateway to communicate with other nodes on the public network and private network (network address conversion system for enabling an access to a node of a private network, having a private IP address and an internal port value, figure 2 and figure 3 and co2 lines 63-37). Kunze further discloses;

of the network gateway processing (computer processor) incoming network packets from the public node (20 of figure 2) which contains a connection request (col3 lines 40) to a fixed subset of nodes on the private network (a reservation unit which receives an access reservation demand (connection request) from an external network node (public node) to access a specific node of the private network (40c of figure 2), col3 lines 54-60).

of responding to the connection request by changing the "source" address to a gateway's public IP network socket and forwarding to the public network socket from which the connection request originated (external port value allocation unit (creating a entry in socket map) which allocates a first external port value (public port number) to the specific node in response to receiving the access reservation demand (connection request) from the external node (public node), and transmitting the first external port value to the external network node (response to request), solid line of figure 1 representing response and 560 of figure 4 and col4 lines 20-25).

of a socket map including a public network port number, a private network address, and a private network port number (a mapping table which records a mapping relationship between the first external port value (a public port number) that is allocated and the internal port value (private port value) of the specific node of the private network, col3 lines 9-15).

an address conversion unit which converts the first external port value (public port number) into a private IP address (private network address) of the specific node,

when the external network node accesses the specific node by using the first external port value (as seen in figure3).

Regarding claim 3, 7, and 14 Kunze discloses a mapping table that records the mapping relationship between the first external port value that is allocated (public port value) and the internal port value (private port value) of the specific node of the private network when the access reservation demand is received from the external network node (figure 3 and col4 lines 34-38).

Regarding claim 10, 12, and 15, Kunze discloses the first external port value that is allocated and the internal port value of the specific node of the private network are different port values (as seen in 125 of figure 3 comprising different port numbers).

Regarding claim 11, 13, and 16, Kunze discloses the first external port value that is allocated to the specific node in response to receiving the access reservation demand from the external node is a new port value (new socket identifier) and said new port value is allocated when the access reservation demand is received (col4 lines 58-63).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 2, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunze et al. (US 6879593), in view of Wootton et al. (US 6128298) hereinafter referred to as Kunze and Wootton.

Regarding claim 2 and 6, Kunze discloses all aspects of the claimed invention as set forth in the rejection of claim 1, but fails to explicitly teach functionality to delete the first external port value from the mapping table in response to the cancel demand.

However, Wootton discloses a mapping table (lookup table, col 3 lines 10-15) and the functionality of deleting, when receiving an access reservation cancel demand (zeroing upon detection of an end of transmission code in the packet, col. 3, lines 20-22) the first external port value (lookup table entry, col. 3. line 21, and private network's port number, col. 3, lines 14-15) allocated to the specific node. Therefore, it would have been obvious to one ordinarily skilled in the art at the time of the invention to use the deletion functionality disclosed by Wootton in conjunction with the mapping table of the system disclosed by Kunze to effect efficient use of a network address conversion system's resources. The motivation for doing so would have been when the external

node indicates that it no longer desires the connection to the internal node, and the stored information is no longer necessary or relevant, the implementation of the deletion functionality would remove the stored information to allow room in the table for other information.

6. Claims 4, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kunze et al. (US 6879593), in view of Chitturi (US 6760780) hereinafter referred to as Kunze and Chitturi.

Regarding claim 4, and 8 Kunze discloses all aspects of the claimed invention as set forth in the rejection of claim 1, and the public IP address of the external node (as well known in the art, col2 lines 22-30) but does not disclose allocation of a second (or more) port for use by the external node. Chitturi, however, discloses a node on a private network with a private IP address (fig. 2, item 104) and communication between the public node and the private node through a proxy. The communication, which is illustrated by fig. 12 and col. 13, lines 8-12, shows the external node using 2 ports, an audio port 1400 and a video port 1500 which, in this case, is the second port the external network node includes. It would have been obvious to one ordinarily skilled in the art at the time of the invention to include in the functionality of the network address conversion system taught by Kunze with the concept of the external network node having a public IP address and a second external port value as taught by Chitturi. The motivation for doing so would have been to allow the external network node to use two

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or more ports for communicating with an internal node, as is typically done in modern multimedia communication.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Yanagidate et al. (US 6128664), Address-Translating Connection Device.

b) Mcpherson (US 6944167), Method and Apparatus For Dynamic Allocation of Private Address Space Based Upon Domain Name Service Queries.

c) Srisuresh et al. (US 6058431), System and Method For Network Address Translation As An External Service IN The Access Server Of A Service Provider.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen Ngo whose telephone number is (571) 272-8398. The examiner can normally be reached on Monday-Friday 7am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

N.N.

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